

ABSTRACT

In a fuel injector circuit for a gas turbine engine, a fuel staging valve assembly for distributing fuel into multiple zones in the combustor, the staging valve assembly, including a pilot valve operatively interconnected with at least one main valve, having high pressure and no leak capabilities, which are used to open, close and modulate the mass flow rate volume of fuel within the fuel injection circuit, with the position of the normally-closed valve being controlled by the pressure difference between the nozzle fuel supply circuit and a separately supplied signal circuit. As long as the desired pressure differential is maintained, fuel flow may be modulated without affecting the position of the valve, with the valve seats and valve seals being so configured as to prevent fuel leakage into the downstream nozzle circuit under these conditions.